

## **Historic, Archive Document**

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SHADE TREES

Shrubs

*Windbreak and  
Ornamental*

Berries

*The kind I sell  
in season*

Evergreens

Perennial Garden Plants

Perennial Flowers

Vines and Bulbs

Annual Garden Plants

— 1 9 5 3 —

# Paulsen Nursery And Floral Shop

**Chas. Paulsen, Prop.**

Minden, Nebraska

Phone 288-J

Located 3 Blocks East of the North Depot  
Just East of the Swimming Pool

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## Plant Research

For about fifteen years the University of Nebraska has been doing research on nitrogen for plant food. Now their reports are quite complete but research still continues. For five years they have been doing research on lime and phosphates. Their reports are good on farm crops and will undoubtedly be more complete in a few more years.

Most trees require an abundance of both but there are some exceptions. Many flower bulbs seem to benefit from potash but the ground seems to be well supplied for most other plants.

Animals and birds each seem to require different foods to do well. A horse needs grass, hay and grain; a dog needs meat with other foods; a chicken lives on worms, grain, bugs and grass.

Plants resemble animals in this respect; they require different amounts of moisture and different amounts of major plant foods. This is also true of minor plant foods.

Some plants require much moisture in the air; others, little. The roots of plants also require different soil structure. Some do better with cultivation; others do better without cultivation.

Azaleas, strawberry-begonias, and tuberous rooted begonias grow best in peat moss. Many other plants like smaller amounts.

Russell Lupine will not grow here unless the ground is heavily limed. About three-fourths of our garden plants do better in sandy ground or limed ground.

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In this catalogue, you will find a number of experiments printed that were true under existing conditions. If your soil is the same as ours, the results will be the same; if your soil is different, you may expect different results. More or less moisture might make a difference, too. I have also listed plant foods that have in certain cases caused food deficiencies that resembled disease.

# Greenhouse

In August, 1949, we bought the Hansen Greenhouse and Floral Shop. We have installed an air circulating gas heating unit, 85,000 B.T.U. which has ultra modern thermostatic control. It gives us an opportunity to study plant growth every day in the year and see blossoms every day. We have many varieties of plants and will be adding more as we get the room.

African Violets	Cyclamen	Lantana
Amaryllis	Daisies	Lilies
Aster	Ferns	Lupines
Azaleas	Feverfew	Petunia
Begonia	Flowering Maple	Philodendron
Caladium	Foliage Plants	Poinsettia
Calla Lilies	Fuchsias	Saintpaulias
Cannas	Geraniums	Snapdragons
Carnation	Gladioli	Succulents
Christmas	Gloxinias	Verbena
Cactus	Hibiscus Double	Tritomas
Chinese	Hydrangeas	Vinca
Evergreen	Ivy	Violet

We also grow annual flowers, cabbage, and tomato plants and flower seeds.

Below are the names of garden plants that we grow for our customers.

Cabbage —	Peppers —
Copenhagen Market	World Beater
Cauliflower —	California Wonder
Early Snowball	Early Pimento
Celery — Cornell No. 19,	Hot Large Cherry
self bleaching	Tomatoes —
Egg Plant —	Valiant, red
Two varieties	Rutgers, red
Kale	Mariglobe, red
Lettuce —	Jubilee, yellow,
Great Lakes	large, non-acid
Onion —	Hybrid Tomatoes —
Sweet Spanish	Burbeana, early
Yellow Bermuda	Burpees, hybrid
	Big Boy
Asters	Russell Lupine
Snapdragons	Salvia
Columbine	Delphinium
Petunias	Sweet William
Pansies	Verbena
Ageratum	

Hybrid tomatoes will sell at \$1.00 per dozen.

Most of the other plants will sell at 25c, 35c, 50c, or 60c a dozen.

## Roses

Hansa, large hardy .....\$1.00  
 F. J. Grootendorst, perpetual blooming.....1.00

### Red Roses

Red Radiance  
 Red Talisman

### Multi-Colored

Talisman  
 President Hoover

### Pink Roses

Editor McFarland  
 Pink Radiance

### Polyanthas

Ideal  
 Gold Salmon

### Yellow Roses

Golden Dawn  
 Sunburst

### Climbing Roses

White Climbing Beauty  
 Red Talisman  
 Paul's Scarlet

### White Roses

Caledonia  
 K. A. Victoria

Each .....\$1.00

Many of these tearoses are semi-hardy and tender in our climate. Planting the graft three or four inches deeper generally prevents them from freezing too bad. In winter most of them freeze close to the ground, but some of them freeze below the ground and still come up to bloom.

They require a sunny place and plenty of water. If the ground contains manure, watch out for white grubworms.

We recommend peat moss as fertilizer for roses.

Dusting sulphur is safely used for most rose bugs and copper sulphate for ground disease such as fungus.

We have many roses that are not listed.

These are hardy roses and patented roses at .....\$1.25 to \$1.50  
 Doctor, Peace, or Poinsettia..... \$1.50 to \$2.50

# Dahlias

These tubers are easily grown providing they get plenty of water and sun.

## Name — Classification

Ann Benedict—Red, large .....	\$ .50
Andries—Orange, bright cactus .....	.20
Bronze Call—Medium .....	.20
Baby Royal—Orange .....	.30
Catherine—Yellow Pompom .....	.15
Clarice—Orange Pompom .....	.15
Delmarva—Orange-red .....	.30
Fairy—Pink, miniature .....	.20
Edith Mueller—Orange, yellow and red Pompom .....	.15
James Vick—Red, miniature .....	.20
Milton Cross—Large yellow .....	.35
Mary Munns—Lavender Pompom .....	.15
Scarlet Leader—Geranium red .....	.20
Royal City—Violet rose .....	.35
Red Common .....	.15
S. V. Glitter—Red-orange Pompom .....	.15
Red Warrior—Red Pompom .....	.15
Virginia Towell—Lavender, medium .....	.35
Victory—Salmon pink .....	.25
Watchung Giant—Amber yellow .....	.40
Yellow Prince—Medium .....	.35

We have large Yellow and Pink Dahlias.

Price — 15c to \$1.00

## Bulbs

Regal Lilies, each .....	\$ .25
Narcissus .....	12 for 1.00
Tuberous rooted Begonias .....	.25
Tulips—Double Red .....	12 for 1.00
Tulips—Mixed .....	24 for 1.00
Russian Lilies, each .....	.25
Dahlias, 30 varieties .....	.15 to 1.00
Cannas .....	2 for .25
Glads .....	25 for 1.00
Tiger Lily .....	25c each, or 5 for 1.00
Star of Bethlehem .....	12 for .25
Grape Hyacinth .....	12 for .25
Chionodoxa Luciliae or Glory of the Snow .....	100 for 2.50

## Gladiolus

Gladioli are by far the most popular garden flower. They grow in either poor or good soil and bloom vigorously providing they get plenty of water. We have over fifty varieties not mentioning our nice ruffled ones. First planting should be about May 1, and continue planting every two weeks until about July 10 for continuous blooming. The latest plantings will bloom just before frost.

Some of our customers buy hundreds of them, others just buy a few of the newer varieties.

Mixed Varieties—large .....	100 for \$4.00
Mixed Varieties—medium .....	100 for 3.00
SPECIAL—4 for 25c or .....	16 for 1.00
Beacon—Scarlet, white throat	
Burma—Deep ruffled, rose red	
Buckeye—Beautiful bronze	
Elizabeth the Queen—Ruffled, lavender	
Gardenia—Cream white	
Gianis—Ruffled, rose salmon	
High Finance—Tall smoky	
June Bells—Fine pure white	
King Lear—Maroon ruffled lavender	
Lady Jane—Fine cream light yellow	
Margaret Fulton—Coral pink	
Mother Kadel—Fine deep yellow	
Minuet—Large lavender	
Miss Wisconsin	
Majuba—Tall, scarlet red	
Olive Marie—Brown	
Pandora—Soft geranium pink	
Purple Supreme	
Red Charm—Best medium	
Rosa Van Lima—Early, rose pink	
Snow Princess—Best white	
White Gold	



## Chrysanthemums

	Bloom	Height
September Dawn—Bronze, Medium, 3 in.	.....	2 - 2½ ft.
Algonquin—Yellow, Early	.....	1½ - 2 ft.
Autumn Light—Light Bronze, Early Button	.....	1½ - 2 ft.
Bronze J. F.—Bronze, Medium	.....	2 ft.
Charles Nye—Yellow, Early, 3 in.	.....	2 - 2½ ft.
Gold Harvest—Bronze, Early Button	.....	1½ - 2 ft.
Harbinger—Bronze-Yellow, Medium (Very fine)	.....	2 - 2½ ft.
Judith Anderson—Yellow, Medium Button	.....	1 - 1½ ft.
Orchid Jewell—Orchid, Medium Button	.....	2½ - 3 ft.
Pink, Late, 4 in.	.....	2½ - 3 ft.
Pink Dolly—Pink, Late, 2½ in.	.....	2½ - 3 ft.
Philadelphia—Wine Red, Medium, 3 in.	.....	2½ - 3 ft.
Polar Ice—White, Early, 3 in.	.....	1½ - 2 ft.
Red Burgundy—Bronze-Red, Medium, 2½ in.	.....	2 ft.
Ruby Red—Red, Early, 2½ in.	.....	1½ - 2 ft.
Salute—Wine Red, Early, 3 in.	.....	1½ - 2 ft.
Semi Bronze—Light Bronze, Med., Double	.....	2½ - 3 ft.
Vulkan—Red, Medium, 2½ in.	.....	2½ - 3 ft.
White Dolly—White, Late, 3 in.	.....	4 ft.
Yellow Spoon—Yellow, Medium, 3 in.	.....	2½ - 3 ft.

## CUSHION MUMS

Bronze—2 in., Early, 1½ feet
Copper—2 in., Early, 1¼ feet
Pink—2 in., Early, 1 foot
Red—2 in., Early, 1 foot
White—2 in., Early, 1 foot
Yellow—2 in., Early, 1 foot

Plant and water each week until buds form, then twice a week. Pinch bud when about 9 inches high so that plant will spread out except for cushion mums which do so without pinching.

Plants sent mail order about May 1st, 10% extra.

Chrysanthemums, each	.....\$ .25
5 Mums, your choice	.....1.00
12 Mums, our choice (all different)	.....2.00

## Perennials

Alyssum .....	
Aquilegia (Columbine) .....	.35 to .50
Bleeding Heart .....	.50 to .75
Baby Breath (3 varieties) .....	.35 to 1.00
Blue Flax .....	
Buttercups (2 varieties) .....	.25 to .35
Chrysanthemums .....	See List
Coreopsis .....	.25
Creeping Phlox .....	.75
Coneflower .....	.25
Candytuft .....	.35
Coral Bell .....	.50
Carnation .....	.50
Daisies—Shasta .....	6 for 1.00
Daisies—English .....	.25
Delphinium .....	.25 to .75
Dianthus .....	.25 to .50
Gaillardia .....	.25
Gypsophila—Double .....	.35 to 1.00
Ghost Plant .....	.25
Golden Glow .....	.35
Iris .....	.10 to .50
Lupines .....	.50
Lily-of-the-Valley .....	12 for 1.00
Lythrum .....	.50
Oriental Poppy .....	.25
Phlox (4 varieties) .....	3 for 1.00
Platycodon .....	.25
Pyrethrum .....	.25 to .50
Peonies .....	.50 to 1.00
Ribbon Grass .....	.20
Statice .....	.35 to .50
Sweet William .....	.25
Sweet Peas—Hardy .....	8 for 1.00
Spiderwort .....	.35
Tritoma, Red Hot Poker Plant .....	.50
Veronica .....	.15
Violets .....	.15 to .35
Violas .....	.20
Weigela .....	.75

# Ornamentals

## SHRUBS

Witch Hazel .....	\$1.00
↘ Red Leaf Peach .....	1.00 to 2.00
↘ Purple Leaf Plum, each .....	1.60
Bechtel's Double Flowering Crab, each .....	1.50
↘ Hopa Flowering Crab, each .....	1.50
Snow Ball, each .....	.75 to 2.50
↘ Korean Cherries, each .....	.75
Carragana, each .....	.50 to 1.00
Hydrangea, each .....	.75
Golden Bell, each .....	.75 to 1.50
Privet, each .....	.10 to .20
Pussy Willow, each .....	.75
↘ Orange Quince .....	.75
Buddleia (4 varieties) .....	.50
Bittersweet .....	1.00 to 2.00
Spirea (6 varieties) .....	.10 to 1.50
Tamarix .....	.25 to 1.00
↘ Persimmon, 12 ft. ....	10.00 to 15.00
↘ Elderberry .....	.75 to 1.50
Mock Orange .....	.50 to 1.00
Barberry .....	.25 to 1.00
Cotoneaster .....	.30 to 2.00
Dogwood, red or yellow .....	.50 to 2.00
Flowering Almond .....	.75 to 1.00
Pride of Dorchester .....	.75
Nine Bark .....	.75
↘ High Bush Cranberry .....	1.00
Lilacs —	
Common .....	100 @ 5.00
Red .....	1.00 to 2.00
White .....	1.00 to 2.00
French Double .....	1.00 to 2.00
German .....	1.00
Des Fontaines Double White .....	1.50 to 2.50
Mdm. LeMoine Double White .....	1.50 to 2.50
Pres. Loubet Double Purple Red .....	1.50 to 2.50
Red Japanese Maple, 1 foot, up .....	1.00 to 2.00
Weigela .....	.75

## **More Favorable Conditions For Fruit Growing**

Up to the present time, summer time has presented us with two problems; namely, dry ground and dry air.

Irrigation was the answer to dry ground, where available. Where not available, cultivation and mulch were partial answers.

Since the Republican River has been dammed, we are getting more moisture in the air, as the lake behind the dam gets filled up. This moisture in the air will increase considerably, when the wind is in the southeast. The wind will carry considerable moisture northwest for twenty or thirty miles and will at all times be noticeable for about fifty miles. When the wind is straight south, the effect will be felt from the Harlan Lake up to fifty miles north. Instead of that dry, hot southwest wind, we feel the wind many degrees cooler and quite moist for at least twenty-five miles northeast of the Lake.

Since the Tri-County project was put in, I have noted good corn crops from Grand Island to Gothenburg and poorer corn east and west of that area.

Many plants collect moisture from the air through their leaves as well as through their roots.

## **Apples and Other Fruit Trees**

We sell about twelve varieties of apples. Four of these varieties—Whitney Crab, Wealthy, Yellow Delicious, and Jonathan—are carriers of Cedar Rust.

The soil in our country is fine for apples. In some places, the soil may be helped by using one-third of a pound of borax to a tree for boron deficiency. Irrigation is helpful to most varieties when the rainfall is less than thirty-five inches per year. A windbreak on the north often provides a few inches of extra moisture. A windbreak from the southwest will reduce damage from hot winds.

### **Anoka Apple**

The Anoka apple trees start to bear the second year and produce apples in quantity every year, causing them to be dwarf. These apples are good for pies and canning. The children like them.

Cedar Rust does not bother them. They ripen in August.

### **Early Harvest**

The well-known harvest apple bears in about six years and bears steadily afterward. Ripens in July.

### **Yellow Transparent**

This is a good canning apple which ripens in August.

### ↘ **Red Delicious**

This well-known apple bears in about six years. It is a good winter apple. McIntosh and Whitney Crabs will pollinate it.

### ↘ **Duchess Red**

The Duchess Red, which is a fine, good-size fall apple, bears in from four to six years.

### ↘ **Yellow Delicious**

This apple, which is one of the best selling apples, can be pollinated by Whitney Crab and McIntosh. It bears at about five years and bears heavy every other year. It is subject to Cedar Rust.

### ↘ **Jonathan Double Red**

This is a good winter apple, subject to Cedar Rust. It produces a crop in about ten years.

### ↘ **Whitney Crab**

I believe all crab apples are more or less subject to Cedar Rust but it is a good pollinator and the best all purpose crab, cooking, and eating apple. It bears at about eight to ten years.

### ↘ **Cortland**

This is a good cooking and eating apple which is not subject to Cedar Rust. It is a large apple which produces its first crop in from three to four years.

### ↘ **Grimes Golden**

The Grimes Golden is a large yellow late fall apple.

## **Pears**

Pears thrive best on clay soil but grow in all parts of the county. The Clapp Favorite bears the second year; other varieties bear from six to ten years. Yield: ten crops in ten years.

The Bartlett needs a pollinator and yields in about six years.

## **Cherries**

Sweet cherries do best in sandy soil. The yield on heavy soil has been light but of fair quality.

Sour cherries are grown all over the county but have been troubled with leaf shedding in July. Common sprays were a failure but, from reports, Fermate seems to be satisfactory as a control spray. In ten years, we had eight crops and two failures due to frost.

## **Plums**

Plums bear about the second year. Out of ten crops, we have had eight good crops, one crop was lost by late frost and one was damaged by hail.

## **Apricots**

Apricots grow well here if they are hardy, but a fly will lay eggs at the bottom of the trunk of the tree which turns into an apricot borer and bores into the bark, causing the sap to leak out. If they are allowed to increase, they may girdle the trunk of the tree and kill it. The borers may be dug out with a knife, or a small ditch may be dug around the base of the tree and some smashed moth balls may be sprinkled in it. The smell of the moth balls will make the borers leave. Borers bother more in dry years than in wet years.

## **Peaches**

Many peach trees are not hardy here. The Amich peach seedling, similar to Polly, is hardy and bears a crop three years out of four. We sell a good, hardy, canning peach seedling, has one good crop every four years. One year the crop is a complete failure and it bears a few peaches the other years.

Peach curl may be due to a zinc deficiency. If not, dusting sulphur will check or control either fungus or aphids.

## **Berry Plants**

### **Gooseberries**

Gooseberries bear a good crop every year. The gooseberry worm is held in check with Black Leaf 40. Gooseberries do best in sandy soil.

### **June Berries**

June berries have produced a fair crop every year for ten years.

### **Grapes**

Concord grapes produced ten straight crops of grapes. One crop was light because of frost.

### **Currants**

Red Lake currants produce a crop here every year.

### **Raspberries**

Without irrigation, black raspberries usually produce a crop.

Red raspberries are a heavy producer under irrigation and can grow in shade. San Jose scale can be cured with sulphur spray.

# Fruit Trees .

## APRICOT

Apricot Seedlings .....	\$ .50 to \$1.00
Apricot Seedlings, small .....	10 for 1.00
Apricot—Moorepark .....	1.50

Other apricots are semi-hardy and are sold as such here.

## APPLE

	Each	6 Large
Anoka .....	\$ .50—\$1.00	\$5.00
Early Harvest .....	.50— 1.00	5.00
Delicious Red .....	.50— 1.00	5.00
Double Red Jonathan .....	.50— 1.00	5.00
Duchess Red .....	.50— 1.00	5.00
Yellow Transparent .....	.50— 1.00	5.00
Whitney Crab .....	.50— 1.00	5.00
Winesap .....	.50— 1.00	5.00

## 5-N-1 APPLE

This means five different varieties grafted on one tree. Each .....\$2.50

## CHERRY

### Sour

	Small	Medium	Large
Kansas Sweet .....	\$1.25	\$1.50	\$1.75
Montmorency .....	1.25	1.50	1.75
Early Richmond .....	1.25	1.50	1.75
English Morello .....	1.25	1.50	1.75

## PEACH TREES

Peach .....	\$ .50
Polly Peach .....	.25 to 1.25

## PEAR

	Small	Medium
Clapp's Favorite .....	\$1.25	\$1.50
Bartlett .....	1.25	1.50

## NUT TREES

### Northern Grown Seedlings

✓ Walnut	.....	\$1.00 to \$2.50
✓ Walnut—Thomas	.....	3.00
✓ Pecan	.....	.75 per foot
✓ Hickory	.....	2 for 1.00
Horse Chestnut—small	.....	1.00 per foot

## PLUMS

	Small	Medium
✓ Apricot Plum	.....\$1.25	\$1.50
✓ Compass	.....1.25	1.50
✓ Wauneta	.....1.25	1.50
✓ Sapa	.....1.25	1.50
✓ Superior	.....1.25	1.50
✓ Toka	.....1.25	1.50
✓ Omaha	.....1.25	1.50
✓ Opata	.....1.25	1.50
✓ Quince	.....	2.50

## GRAPES

✓ Concord	.....25c each; 5 for \$1.00
✓ Niagara	.....25c each

## Number of Trees and Plants per Acre

Varieties; distance apart—number per acre

Apples; 30 x 30 = Trees 48

Apricots 20 x 20 = Trees 108

Cherries, Sour 18 x 18 = Trees 134

Cherries, Sweet 24 x 24 = Trees 75

Grapes 8 x 8 = Vines 680

Peaches 18 x 18 = Trees 134

Pears 26 x 26 = Trees 64

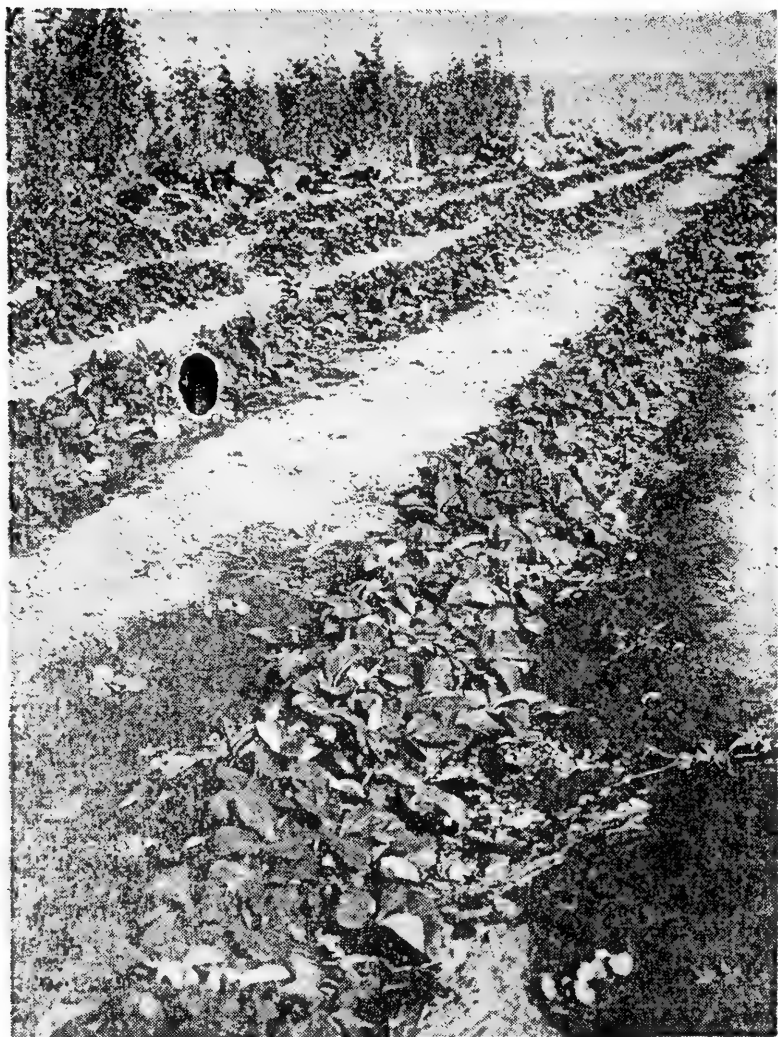
Plums 16 x 16 = Trees 170

Plums 18 x 18 = Trees 134

Blackberries 3 x 6 = Bushes 2420

Red Raspberries 3 x 6 = Bushes 2420





## Wayzata Everbearing Strawberries

### Bush Type — No Runners

Under intensive irrigation we recommend the Wayzata Bush type divisions above all others. It is the favorite of about 99% of our customers.

The Gemzata easily takes second place.

Four others (all producing runners) are about equal for third place.

The Wayzata is a very large, strong vigorous plant about ten to twelve inches high the second year if it has been well fed and watered. The berries are very large and more uniform than most varieties.

The first bloom is generally the largest berry of the eight on the flower stem. Flowers are carried high so this makes it by far the easiest everbearing to pick.

The seeds are so small that they are hardly noticed. The flavor of the Wayzata is mild and sweet.

It is excellent for freezing and requires little sugar when canning.

The Wayzata is perfect flowering needing no other variety to pollinate it.

It is bush type because only two or three plants out of a hundred have any runners. Some Wayzata are semi-bush type and sell at a cheaper price as they are propagated from runner stock. These runner plants resemble the Gemzata. We recommend that the plants be set fifteen inches to eighteen inches apart in the row and that the rows be two and one half feet apart.

Plant them a little lower than they grew in the Nursery because the water will wash away the soil between the rows when using intensive irrigation which all everbearing strawberries require.

We prefer irrigation rather than mulch, and irrigate on an average every four days except when the temperature gets up above 100 degrees, then we irrigate every two days soaking the soil eight to twelve inches deep.

In porous soil watering every two days may be necessary. The Wayzata bears a good crop before July first then it takes a two-weeks rest and then starts to bear steadily until the thermometer reaches as low as 25 degrees above zero. Each picking is heavier than the previous one.

In 1946 from July 15 to November 10, we retailed 1200 quarts of Wayzata Everbearing strawberries, field run, at 50c per quart, from one fifth of an acre. At that rate you could expect \$3,000.00 per acre.

Picking costs were 10c per quart, boxes cost 1½c each.

Phosphates are generally needed at the rate of two to four pounds per 100 square feet, mixed with one ounce of urea for extra yield. These should be mixed and worked into the soil. One fourth to one half pound nitrogen can be added if the soil needs nitrogen.

Occasionally a trace of zinc or copper may increase the yield 5 or 10%.

The plants can be planted in hard or loose ground. The advantage of hard ground is that it does not wash as much as the loose ground, and water soaking will generally loosen it.

Due to the big demand for bush type Wayzatas we quote the following prices:

→ Wayzata Bush Type —

12 divisions	-----	\$2.50
25 divisions	-----	4.25
50 divisions	-----	8.00
100 divisions	-----	15.00

## Wayzata Bush Type

The Bush Type Wayzata Everbearer is a great labor saver because it is an endless job to keep runners off the runner type strawberries. If the runners are left on, many do nothing but make runners, others start making fair-sized berries but as the runners increase, the berries get smaller and soon get the size of peas.

The Bush Type can be grown three years and then divided or pruned back. In the nursery, we divide every two years and always have large berries. The third year, extra fertilizer will be needed to get big berries, as the plant cannot feed the berries sufficiently. A plant just can't make a lot of runners and produce its best, but if the runners are kept off, most everbearers will produce a fair crop.

I am testing Twentieth Century and the Utah Centennial. They are very much alike and may prove about equal to Gemzata, yielding about two-thirds as much as the Bush Type. The Red Rich made a very poor showing here. Perhaps the soil does not suit it.

12 Divisions	-----	\$ 2.50	Postpaid
25 Divisions	-----	4.25	Postpaid
50 Divisions	-----	8.00	
100 Divisions	-----	15.00	



Bush Type Wayzata Plant

## Marshal and New Sioux June Bearing Strawberries

These are June bearing strawberries. The New Sioux was put out on trial by the Extension Service of the University of Nebraska. It is excellent for drought resistance. The yield, flavor, and size will compare well with most June berries. Perhaps the Fairfax and Catskill are both larger and as good flavor, but if irrigation is used, the Marshal is the largest. Hail ruined the 1951 crop just as picking started on the Marshal. However, prospects were very good for a large crop.

If the runners are kept off, it produces a large bush.

Marshal .....	\$5.00 per hundred
New Sioux .....	3.00 per hundred

Prices on Gemzata, Mastodon, and Green Mountain.

25 plants .....	\$1.00
50 plants .....	1.75
100 plants .....	3.00
Other varieties of Everbearing, 100 plants...	3.00

## Berry Plants

Berries will sometimes grow without much care, but will grow better if conditions are made favorable.

Moisture and windbreak are very essential.

Moist, fertile soil attracts earthworms which seem to benefit many plants.

I believe our soil is very good but it is often so dry that plants cannot get minerals in soluble forms. Heat, frost, and moisture will often get minerals in soluble form if they are given lots of time.

Pruning may be done in dry weather after the fruit has been picked but many prefer to prune when plants are dormant just before budding in the spring.

If the ground gets hard, common manure will help things grow and make better soil if sufficient water is used. Peat moss and wood ashes, too, are useful.

### Raspberries

↘ St. Regis Everbearing, 8 plants	\$1.00
↘ Latham Red, 8 plants	1.00
↘ Cumberland Black, 8 plants	1.00
↘ Boysenberry, 6 plants	1.00
↘ Nectarberry, 6 plants	1.00
↘ Dewberry, 12 plants	1.00
↘ Thornless Boysenberry, each	.50
> Mulberry, each	.25

### Blackberries

↘ Alfred, 8 plants	1.00
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### Gooseberries

↘ Hutton, each	.50
↘ Downing, each	.50
↘ Currants, Red Lake, each	.40

Berry plants are all home grown.

## Rhubarb

Canada Red:

No seed stalk, red and very sweet... 2 for \$1.00

MacDonald:

No seed stalk, larger than above .. 3 for 1.00

## Evergreens

Arbor Vitae, 1 to 3 ft. ....	\$1.00 per ft.
Arbor Vitae, Compacta .....	2.00 per ft.
Pine, Yellow or Ponderosa .....	1.00 per ft.
Pine, White .....	1.50 per foot
Pine, Mugho, each .....	\$3.00 to \$7.00
Silver Cedar, often called Silver	
Beauty .....	1.50 per ft.
Pathfinder .....	2.50 per ft.
Weir Scopulorum .....	3.00 per ft.
Blue Heaven .....	3.00 per ft.
Irish Juniper .....	3.00 each
Yews .....	3.00 per ft.
Swedish Juniper .....	2.00 per ft.
Norway Spruce and Black Spruce...	1.50 per ft.
(The real Christmas trees)	
Douglas Fir .....	2.00 per ft.
Colorado Blue Spruce ....	\$2.50 to \$5.00 per ft.
Grafted Koster Blue Spruce .....	8.00 per ft.
Red Cedar, sheared .....	1.00 per ft.
(Inverted cone shape, 4 to 6 ft.)	
Windbreak size .....	.75 per ft.
Nice shaped 1 ft. size .....	About .40
Seedlings .....	About \$4.00 per 100

Transplanted seedlings grow better and are higher priced depending on shape and size.

## Spreaders

Spreaders that are used for foundation plantings are scarce but we have a good supply.

	Width Measure
Sabina Juniper .....	\$1.50 per ft.
Pfitzer Juniper .....	2.00 per ft.
Hetzi Glauca .....	2.00 per ft.
Bar Harbor Juniper .....	1.00 per ft.
Waukegan Juniper .....	1.00 per ft.
Eadland Juniper .....	1.00 per ft.
Irish Juniper .....	1.00 per ft.
Admeribles, not over 8 inches high	1.00 each
(Are often used for grave covers)	

## Shade Trees

Some of these trees are twenty feet high and we have a limited supply of seedlings. The prices vary according to size and shape. They are priced very reasonable.

Our garden crops need windbreak protection as well as good soil and water. Some plants need shade. A home is more comfortable both in summer and in winter if the windbreak and shade are adequate.

A large list of shade trees offers selections suitable for every home. Some are drouth resistant as the cottonless cottonwood and box elder and beautiful in their place.

Cottonwood, 18 inch, per 100	\$2.50
Ash	1.00 to 3.00
Chinese Elm, 12 in. to 18 in., per 100	2.50
Birch, American White, 5 to 6 ft., each	\$4.00—up
Caragana or Siberian Pea Tree	.50 to 1.00
Moline Elm, 12 to 15 ft.	5.00—up
American Elm, 2 to 3 inches cal.	2.00 to 4.00
Hackberry, 6 to 8 ft.	2.00
8 to 10 ft.	\$2.50;
10 to 12 ft.	3.50
Hackberry, 4 inch cal.	12.50
Redbud	.75 to 5.00
Pin Oak, 1 to 2 ft., each	1.00
Burr Oak, 1 to 5 ft.	.75 per foot
Red Oak, 1 ft.	3 for 2.00
Sugar Maple, 12 ft., each	7.50
Kentucky Coffee Tree, 6 to 8 ft., each	5.00
Honey Locust Moraine, each	4.50
Linden, 4 to 8 ft.	.50 per foot
Maple—Norway	2.00 to 6.00
Maple—Common	1.00 to 5.00
Maple—Red Schwedler's, each	5.00
Mountain Ash, 6 to 8 ft., each	5.00
Poplar—Lombardy, 7 ft. and down	Up to .50
Poplar—Lombardy, 10 ft., each	1.00
Poplar—Silver	.50 to 5.00
Poplar—Bolleana, up to 6 ft., per foot	.15
Over 6 ft., per foot	.20
Walnut—Black, 12 to 15 ft., each	2.50
Weeping Willow—Yellow, per foot	.25
Sycamore, 10 to 12 ft., each	15.00
Small size, 3 ft., each	1.00

## Hedge Plants

Privet, per 100 .....	\$10.00 to \$20.00
Cotoneaster, per 100.....	30.00
Gnilla Maple, each .....	.50
Barberry .....	.25 to 1.00
Pussy Willow .....	.50
Poplar—Lombardy, 5 ft. to 6 ft. and down....	.50
Poplar—Bolleana, 15c per ft.; large 20c per ft.	
Lilac—Common, per 100 .....	10.00
Lilac—Double, each .....	2.00

## Vines

Trumpet Vine	Engelmann's Creeper
Climbing Rambler	Silver Lace Vine
Bittersweet	Wisteria
Clematis—75c	

## Cuttings for Planting

\$1.00 per 100

Lombardy Poplar Cuttings can often grow without irrigation, but under irrigation they can grow seven feet tall in one year. If you wish to grow them without irrigation, summer fallowed soil is by far the most satisfactory.

With experience you can grow many trees from cuttings.



# Experiments with Plant Foods And Water

## SOIL PREPARATION

### Conditions Change — Requirements Vary

In sandy soil the ground is loose and does not need plowing to loosen the ground. That is the reason for one-way disking and trash-farming or duck-footing. It stops erosion. Conditions seem to favor them. Most of the crops grown there are shallow rooted so that most of them are near the surface.

When trash is plowed under, it absorbs water from above and below causing the ground to dry out faster. When the trash is on top of the ground, it prevents heating and drying out and checks erosion by water and wind. Results seem to be better crops.

Summer fallowing produces large crops in dry land areas. One of the main reasons is the accumulation of moisture. The moisture rots the trash one year but seldom is enough to grow a crop the same year. Perhaps summer fallowing also gets rid of injurious insects and worms. It is quite possible that the time and weather makes needed minerals available to plants as well as nitrogen.

### Heavy Ground

#### Contrasting Heavy Soil and Light Soil

Heavy soil needs occasional deep plowing or loosening for many plants, although many plants like rather firm seed beds. A firm seed bed starts capillary action to work to supply moisture for the seed.

On wet soil the seed will start on top of the ground as is often seen in volunteer wheat or oats. In dry weather this does not occur.

In dry weather corn can easily be planted six or eight times its length; that is true of most seeds grown here.

Those requiring much moisture grow best on top of the ground in moist weather, some of them require shade and have a narrow temperature range. These conditions can be created here only in enclosed boxes with light, heat, and moisture regulation unless greenhouses are used.

Where rainfall annually is 60 to 100 inches, nurserymen plant trees about the same depth that they were before they were dug. In dry, well-drained ground, here, we often plant them 12 to 18 inches deeper than they were in the nursery. If trees were planted 12 to 18 inches deeper where the rainfall was very heavy, the trees would die because the

roots would fail to get sufficient air. Most of the trees that die in this area die from insufficient watering, then too, a few die because there is no windbreak.

## **Sandy Soil**

Many plants grow well in sandy soil. Sometimes this is due to soil structure and sometimes it is because plants require lime. Sandy soil generally contains much lime.

The soil structure in blow sand is almost opposite from the gravel bed. The gravel bed produces fibrous roots; the blow sand produces very fine roots.

Most of our garden plants are lovers of soil rich in lime. Many of them like a porous soil structure. The tomato and carrot are two good examples.

Bare sand gets very hot in sunshine and may require shade to reduce this excessive heat down to 80 or 90 degrees. Some crops can produce their own shade, others cannot.

Sandy soil is usually deficient in rock phosphate and often in potash. Nitrogen will sometimes put these minerals in soluble form.

Boron is a minor element. Fifteen to twenty pounds of borax should provide enough for an acre for years, but it is needed for alfalfa, apples, pears, and strawberries, and perhaps other crops.

## **Acids**

Some acids, when one or two drops are diluted in a quart of water, are beneficial to quite a few plants. They might kill insects, virus, fungus, or microbes or encourage them, or maybe make foods in soluble form.

## **Water and Moisture**

There are a few plants which can live on an annual rainfall of ten inches. Our annual rainfall here is about twenty to thirty-five inches but it may be more or less. That is a good range for wheat. Except for extreme varieties, corn does better where the rainfall is forty to sixty inches a year.

Most trees and garden crops do best with that much or more rainfall per year. Many of these plants are irrigated.

Most little plants need little water, but as they get larger, more water is needed in proportion to their size. Plants get water from the soil and air. A few plants can grow in water and a few can grow in air without soil. Many people can look at a plant or the soil and see that a plant needs water or that it does not need water, but some people just can't understand a plant. About one third of my customers lose all the Bush Type Strawberry divisions because they do not water enough or often enough.

About one third of my customers show their neighbors and friends the large plants with berries and tell about the heavy yield they get because they understand how to water them; some customers learn after one or two failures; others never do.

For those persons, I will make a watering chart so they will understand watering better. Some soil will require one half or two times as much water, and wind or moist air might make as much difference.

I plant them in a ditch and run the water down the row slowly about fifteen minutes. Of course, one fourth of a day wouldn't hurt them but short-rooted plants can't use excess water.

Water varies mostly with temperature.

#### Average daily temperature —

40 degrees	once or twice a week
50 "	3 times a week
60 "	once a day
70 "	twice a day
80 "	2 to 3 times a day
90 "	3 or 4 times a day
100 "	4 times a day
110 "	5 times a day

These plants will not need to be watered so often when they grow larger roots, but in summer, they should stand in mud once every three or four days for top production. I generally run the water around them for two hours each time. Once in a while, it might run all night.

### Spraying

Most of the spraying done is useless, except for the water it contains.

When evergreens get full of spiders, give the trees a heavy sprinkling and they will take care of themselves until they are dry again. Then sprinkle again until spiders are few and far between.

When ash trees get full of borers, give them plenty of water for three or four years and they will whip the borers. Many other trees will do the same.

When cucumber bugs eat the plants, the soil has insufficient lime and perhaps water. If these are provided, cucumbers grow well, especially in well manured ground.

Many plants; such as, cabbage, cauliflower, broccoli, lettuce, celery, peas, beets, cherries, plums, etc., like lime. Elm, linden, and other plants like small amounts of it, although it will kill blueberries and make acid loving plants look sick.

Strawberry plants like lots of water and phosphates; nearly all trees and plants like small amounts of it.

Our soil here is rich in potash but sometimes bulbs respond to feeding extra potash.

The plants that do not respond to lime often like sulphur.

African Violets start easy with Vermiculture.

1 quart .....	10c;	3 quarts .....	25c
Peat Moss, Horticultural, quart .....			10c
Hyponex .....			25c

## Lime

The use of lime for growing crops is over 2,000 years old in many places, yet authors seldom write about it. I consider lime the best soil conditioner I have used. I use it for control of white grub worms, eel worms, and many other bugs.

A number of years ago a manufacturer of canned foods told me he inquired from the schools of Nebraska and Iowa about growing peas. The replies came back that peas were not adapted to his locality. During the depression he talked to a truck raiser from Minnesota who said he could grow peas anywhere. He hired the truck grower at \$250 per month and the results were the best peas he had ever seen.

The ground was prepared as usual except one ton of lime was put on each acre and when planted the seed was inoculated. He was well pleased to pay \$150 extra per month for the knowledge and demonstration.

When I plant cucumber, squash, and pumpkin seed, I use two tablespoonfuls of lime in every hill mixed with the soil. Result: no bug trouble. I also use it for cabbage, cauliflower, broccoli, lettuce, celery, beets, and onions.

Many trees; such as, elm, linden, cherry, and plum like lime in large quantities. Others like it in smaller quantities.

**Warning—Do not use lime on acid loving plants; such as, blackberries and blueberries.**

## Sulphur

Sulphur can be used for control of bugs and worms on roses and other flowers and plants that do not like lime. Sulphur is often used for control of red spiders in evergreens. Sulphur oil sprays are used for control of San Jose Scale.

## Copper Sulphate

Copper sulphate and other copper compounds can be used as a minor plant food and soil disinfectant where lime or sulphur are not used or in combination with them when used. Copper sulphate, either as a spray or plant food, will control many ailments caused by fungus. Lime, either as a plant food or spray, seems to help control lice and eating insects. For acid loving plants, sulphur often answers a similar purpose.

## **Plant Foods Must Be Soluble**

- |               |               |                |
|---------------|---------------|----------------|
| 1. Nitrogen   | 12. Cobalt    | 23. Lead       |
| 2. Phosphorus | 13. Manganese | 24. Aluminum   |
| 3. Potassium  | 14. Iodine    | 25. Selenium   |
| 4. Calcium    | 15. Zinc      | 26. Copper     |
| 5. Magnesium  | 16. Chlorine  | 27. Tin        |
| 6. Sulphur    | 17. Arsenic   | 28. Barium     |
| 7. Sodium     | 18. Silica    | 29. Strontium  |
| 8. Iron       | 19. Oxygen    | 30. Molybdenum |
| 9. Boron      | 20. Hydrogen  | 31. Zirconium  |
| 10. Carbon    | 21. Silver    | 32. Titanium   |
| 11. Urea      | 22. Nickel    | 33. Vanadium   |

Different kinds of plants require plant foods that are different. For example, the bean family; some varieties require much lime and other varieties grow well with little lime. Some varieties like water in large quantities, other varieties like a moderate amount.

Earthworms will kill blueberries but seem to benefit most plants.

Mushrooms can grow without any light, most plants cannot do so.

I have heard of different kinds of strawberries growing from Mexico to within the Arctic Circle.

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The American Association of Nurserymen includes over 1,400 nurserymen from the United States and Canada and perhaps a few associate members. I joined this association as a member several years ago.

Our aim is to beautify America and make it fruitful. We also exchange ideas, seeds, plants, etc.

Nebraska has about a dozen members. We will help you in various ways to make the Parks and Roadsides more beautiful as well as planting orchards and landscaping your home whether in town or in the country.

Our first job is to gather seed and see that it is correctly labeled and of good quality. Seed collectors help collect and distribute the seed but the growing is done exclusively by nurserymen who specialize in growing seedlings. Some of these we sell, others we transplant one or more times and sell them as trees. Sometimes we find marked variations in foliage or fruit. When we consider these variations of value, we propagate by root or twig cutting, other times by budding or grafting. Then these grafts are shaded and watered as needed and transplanted to grow larger until they are ready for sale. These trees are generally transplanted when one year old or root-cut every two years. That system forms a compact root system that can be transplanted much more readily than a seedling tree that has never been transplanted.

**PAULSEN NURSERY AND  
FLORAL SHOP  
Minden, Nebraska**



— 1953 —

**Boxholder**